AMENDMENT TO THE CLAIMS

1 (Currently Amended): An implantable prosthesis comprising:

at least one occluder, wherein the at least one occluder comprises a rigid material with pores formed in the rigid material, wherein the rigid material is selected from the group consisting of metals, carbonaceous solids, polymers, and ceramics; and

a filler comprising a hydrogel or a structural protein or a bioactive agent or mixtures thereof, the filler being located within the pores, wherein said rigid porous material with the filler presents a smoother surface for fluid flow than pores without filler and wherein the filler prevents back flow of fluid through the pores of the occluder.

2 (Original): The implantable prosthesis of claim 1 wherein the filler fills the pores.

3 (Original): The implantable prosthesis of claim 2 wherein the rigid porous material with the filler presents a smooth surface to flow.

4 (Original): The implantable prosthesis of claim 1 wherein the filler partly fills the pores.

5 (Original): The implantable prosthesis of claim 1 wherein the filler comprises a hydrogel selected from the group consisting of poly(ethylene glycol), poly(hydroxyethyl methacrylate), partially or fully hydrolyzed poly(vinyl alcohol), poly(vinylpyrrolidone), poly(ethyloxazoline), poly(ethylene oxide)-co-poly(propylene oxide) block copolymers, polyamines, polyacrylamide, hydroxypropylmethacrylate, carboxymethyl cellulose, hydroxyethyl cellulose, methylhydroxypropyl cellulose, polysucrose, hyaluronic acid, alginate, chitosan, dextran, gelatin and mixtures and copolymers thereof.

6 (Original): The implantable prosthesis of claim 1 wherein the filler comprises a structural

protein.

7 (Original): The implantable prosthesis of claim 6 wherein the structural protein is an extracellular matrix protein.

8 (Original): The implantable prosthesis of claim 1 wherein the filler comprises a mixture of hydrogel and structural protein.

9 (Original): The implantable prosthesis of claim 1 wherein the filler comprises a biologically active agent.

10 (Original): The implantable prosthesis of claim 9 wherein the biologically active agent is dispersed within the hydrogel or protein.

11 (Original): The implantable prosthesis of claim 9 wherein the biologically active agent is selected from the group consisting of a growth factor, a cell attraction compound, an anticoagulant and combinations thereof.

12 (Original): The implantable prosthesis of claim 9 wherein the biologically active agent is VEGF.

13 (Original): The implantable prosthesis of claim 9 wherein the bioactive agent is a growth factor.

14 (Original): The implantable prosthesis of claim 9 wherein the bioactive agent is a progenitor attraction compound.

15 (Original): The implantable prosthesis of claim 9 wherein the bioactive agent is an

anticoagulant.

16 Cancelled.

17 (Original): The implantable prosthesis of claim 1 wherein the pores have an interconnecting porosity.

18 (Original): The implantable prosthesis of claim 1 wherein a nutrient is also located within the pores.

19 (Original): The implantable prosthesis of claim 1 further comprising viable cells.

20-21 Canceled.

22 (Previously Presented): The implantable prosthesis of claim 1 wherein the prosthesis is a mechanical heart valve prosthesis comprising an orifice ring and the at least one occluder attached to the orifice ring.

23-39 Canceled

40 (Currently Amended): An implantable medical device comprising;

at least one occluder, wherein the at least one occluder comprises a rigid material having pores formed in the rigid material and present substantially close to a surface of the rigid material, wherein the rigid material is selected from the group consisting of metals, carbonaceous solids, polymers, and ceramics; and

a filler, said filler comprising a hydrogel or a structural protein or a bioactive agent or mixtures thereof, the filler being located within the pores to promote cellular attachment and proliferation and wherein the filler prevents back flow of fluid

through the pores of the occluder.

41 (Previously Presented): The medical device of claim 40 wherein said device is for contacting bodily fluids and/or tissue after implantation.

42 (Previously Presented): The medical device of claim 40 wherein said filler fills the pores.

43 (Previously Presented): The medical device of claim 42 wherein said rigid porous material with the filler presents a smooth surface to flow.

44 (Previously Presented): The medical device of claim 40 wherein said bioactive agent is dispersed within the hydrogel or protein.

45 (Previously Presented): The medical device of claim 40 wherein the bioactive agent is selected from the group consisting of a growth factor, a cell attraction compound, an anticoagulant and combinations thereof.

46 (Previously Presented): The medical device of claim 40 wherein the bioactive agent is VEGF.

47 (Previously Presented): The medical device of claim 40 wherein the bioactive agent is a progenitor attraction compound.

48 (Previously Presented): The medical device of claim 40 wherein the bioactive agent is an anticoagulant.

49 (Currently Amended): An implantable medical device comprising;

at least one occluder, wherein the at least one occluder comprises a rigid material having pores substantially extending through the rigid material to form a porous network,

wherein the rigid material is selected from the group consisting of metals, carbonaceous solids, polymers, and ceramics; and

a filler, said filler comprising a hydrogel or a structural protein or a bioactive agent or mixtures thereof, the filler being located within the pores, and said porous network does not provide significant blood flow through the porous material and wherein the filler prevents back flow of fluid through the pores of the occluder.

50 (Previously Presented): The medical device of claim 49 wherein said porous network promotes cellular attachment and proliferation.

51 (Previously Presented): The medical device of claim 49 wherein said filler fills the pores.

52 (Previously Presented): The medical device of claim 51 wherein said rigid porous material with the filler presents a smooth surface to flow.

53 (Previously Presented): The medical device of claim 49 wherein said bioactive agent is dispersed within the hydrogel or protein.

54 (Previously Presented): The medical device of claim 49 wherein the bioactive agent is selected from the group consisting of a growth factor, a cell attraction compound, an anticoagulant and combinations thereof.

55 (Previously Presented): The medical device of claim 49 wherein the bioactive agent is VEGF.

56 (Previously Presented): The implantable prosthesis of claim 1 wherein the rigid polymer is selected from the group consisting of polysulfones, polyacetals, polyethersulfones, polyarylsulfones, polyetheretherketones, polyamides, polyurethanes, polytetrafluoroethylene, other fluoronated and

perfluoronated vinylpolymers, polycarbonate, polyetherimides, tyrosine-derived polyarylate polymers, polylactic acid and polyglycolic acid-based composites and copolymers and mixtures thereof.

57 (New) The implantable prosthesis of claim 1 and wherein the occluder comprises an upstream side and a downstream side and wherein the occluder comprises a network of interconnected pores that provide a passageway for the fluid from the downstream side to the upstream side and wherein the filler is placed within the pores to prevent the backflow of fluid from the downstream side to the upstream side of the occluder.